



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 09/539,409 | 03/30/2000 | Masahiko Yamada | Q56564 | 7984 |

7590 07/09/2003
Sughrue Mion Zinn Macpeak & Seas PLLC
2100 Pennsylvania Avenue N W
Washington, DC 20037-3202

EXAMINER

BHATNAGAR, ANAND P

| ART UNIT | PAPER NUMBER |
|----------|--------------|
|----------|--------------|

2623

DATE MAILED: 07/09/2003

4

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/539,409

Applicant(s)

YAMADA, MASAHIKO

Examiner

Anand Bhatnagar

Art Unit

2623

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-30 is/are rejected.
- 7) ☒ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 3. 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 3, 5, 7, 18, 20, and 22, recites the limitation "said measuring result." There is insufficient antecedent basis for this limitation in the claim. Examiner will address these claims and all claims dependent from these claims as best understood by the examiner.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this

Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claim 1-8 and 16-23 are rejected under 35 U.S.C. 102(e) as being anticipated by Wang (U.S. patent 6,477,262).

Regarding claims 1 and 16: A storing method (Wang et al. fig. 1 element 70) comprising the step of:

storing a radiation image displayed on a display screen of an image display unit (fig. 1 elements 55, 70, 200, and 400, where a mammogram image "radiation image" that is displayed is stored in the storage unit 70) the radiation image including a measuring point which is a measuring object (fig. 1 elements 55-59, where the abnormality locations are marked by location markers, elements 56-59, the location markers are read as measuring points); and

wherein positional information of said measuring point specified on said display screen is stored in a storage medium along with said radiation image (fig. 1 elements 55-59, 70, 200, and 400, col. 5 lines 66-67, and col. 6 lines 1-3 and 27-32 where the annotation map is a x-y coordinate map "position information" of the locations of the detected abnormalities which are marked by location markers, elements 56-59. The digital images as well as its corresponding identification are stored in a storage unit, element 70. The corresponding identification is read as all the information obtained regarding the abnormalities in the annotation map, which is the position data, location markers, as well as the probability values).

Regarding claims 2 and 17: The storing method as set forth in claim 1, wherein a result of measurement (col. 5 lines 53-57 and col. 6 lines 1-3, the probability values are read as the "result of the measurement"), obtained based on said positional information, is stored along with said radiation image and said positional information (fig. 1 elements 55-59, 70, 200, and 400, col. 5 lines 66-67, and col. 6 lines 1-3 and 27-32 where the annotation map is a x-y coordinate map

“position information” of the locations of the detected abnormalities which are marked by location markers, elements 56-59. The digital images as well as its corresponding identification are stored in a storage unit, element 70. The corresponding identification is read as all the information obtained regarding the abnormalities in the annotation map, which is the position data, location markers, as well as the probability values).

Regarding claims 3 and 18: The storing method wherein said positional information and said measurement result are stored as numerical information (abstract; where the probability value “measurement result” can be numerical or analog form and the position information is in x-y coordinates, i.e. numerical form).

Regarding claims 4 and 19: The storing method wherein said positional information and said measurement result are stored as numerical information (abstract, where the probability value “measurement result” can be numerical or analog form and the position information is in x-y coordinates, i.e. numerical form).

Regarding claims 5 and 20: The storing wherein said positional information and said measurement result are stored as image information that is embedded in said radiation image and displayed (col. 7 lines 54-59, where the data, position and probability values “measurement result”, can be displayed on top of or in registration with the digital mammogram, where in registration is read as embedding data into the digital mammogram).

Regarding claims 6 and 21: The storing method as set forth in claim 2, wherein said positional information and said measurement result are stored as image information that is embedded in said radiation image and displayed (col. 7 lines 54-59, where the data, position and probability values "measurement result", can be displayed on top of or in registration with the digital mammogram, where in registration is read as embedding data into the digital mammogram).

Regarding claims 7 and 22: The storing wherein said positional information and said measurement result are stored as overlay image information that is overlaid on said radiation image and displayed (col. 6 lines 59-64, where the annotation map, which contains the location/position information as well as the probability values "measurement result", can be superimposed on the image. The superimposing is read as "overlying").

Regarding claims 8 and 23: The storing method wherein said positional information and said measurement, result are stored as overlay image information that is overlaid on said radiation image and displayed (col. 6 lines 59-64, where the annotation map, which contains the location/position information as well as the probability values "measurement result", can be superimposed on the image. The superimposing is read as "overlying").

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 9-13 and 24-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wang (U.S. patent 6,477,262).

Regarding claims 9-13 and 24-28: The storing method wherein said radiation image is an entire image representing the whole of said radiation image and an enlarged image of a portion of said entire image displayed for specifying said measuring point.

Wang discloses where a mammographic image may be displayed in different ways, such as superimposing information on the image or placing information on the image directly. Wang further discloses to display a large version of the mammographic image with a small version of the annotation image on the same display image (fig. 1 element 400,55, and 450, and col. 7 lines 51-60). It would have been obvious to one skilled in the art to modify the system of Wang where more display options of images can be incorporated, such as having an enlarged portion of a portion of the image being displayed along with the whole image.

Regarding claims 14 and 29: The storing method wherein said enlarged image is obtained by enlarging a portion of said entire image displayed on said display screen, indicated by an indicating mark, and also by overwriting and displaying the enlarged portion on an area including said portion. This is a well

Art Unit: 2623

technique in image processing where a region of interest is marked where this region would be enlarged to undergo further analysis. Examiner takes Official Notice.

Regarding claims 15 and 30: The storing method wherein said enlarged image is obtained by enlarging and displaying a portion, indicated in said entire image by an indicating mark, on an area on the display screen differing from an area on which said entire image is displayed. This is a well technique in image processing where a region of interest is marked where this region would be enlarged to undergo further analysis. Examiner takes Official Notice.

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Simon et al. (U.S. patent 6,470,207 B1) for overlay information onto an image.

Manwaring et al. (U.S. patent 5,638,819) for graphing and displaying a tomographic image with location information data displayed.

Ferre et al. (U.S. patent 6,445,943 B1) for patient image display and position determination.

Art Unit: 2623

Contact Information

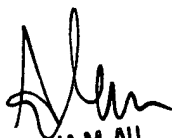
6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anand Bhatnagar whose telephone number is (703) 306-5914, whose supervisor is Amelia Au whose number is 703-308-6604, group fax is 703-872-9314, and Tech center 2600 customer service office number is 703-306-0377.

AB

Anand Bhatnagar

Art Unit 2623

June 28, 2003


AMELIA M. AU
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600